



NEW WELLS

Guidance for Developing a Wellhead Protection Program Plan

Michigan Department of Environmental Quality

GOAL

Where water supply expansion, increases in water use, or susceptibility of existing wells or well fields to contamination may necessitate the future development of new production facilities, a mechanism for incorporating new wells or well fields into the local wellhead protection program should be provided.

NEW WELLS AND WELLHEAD PROTECTION

Public water supply systems expanding with the construction of new wells are encouraged to implement a local wellhead protection program for the new wells. There are many reasons to support the concept of wellhead protection at the time of construction. Primary among them is the fact that the wellhead protection area delineation is accomplished much easier and at considerably less cost since much of the hydrogeological work required of a delineation is also required in the resource assessment to determine the availability of ground water at a site. Another reason for this approach is to verify that the water supply development is occurring in an area where it will not be subject to contamination. This is critical to the concept of furthering public health and protecting the investment which a public water supply system makes in developing a ground water resource.

WATER SUPPLY ASSESSMENT

The wellhead protection area delineation activities result in a thorough hydrogeological assessment of existing wells or well fields. This should result in a better understanding of the existing ground water availability and the ability of the public water supply system to meet present demands for water. However, the delineation activities may indicate that the community should seek the development of new facilities at an alternative site. This may be due to identification of problems such as knowledge that a well or well field appears to be "at risk" due to existing sources of contamination within the wellhead protection area. Information with regard to projected future water use may also result in a desire by the community to develop an additional well or well field. In either instance, the delineation activities can be used to identify more favorable locations for further development of the ground water resource. Conversely, the evaluation of the public water supply system resulting from wellhead protection efforts may result in the conclusion that additional development of the ground water resource is not necessary.

ARE NEW WELLS NECESSARY

Knowledge of the public water supply system demands, current capacity, and the community's projected growth are essential in determining the need for a new well or well field. Information of concern and questions which should be asked in making a decision with regard to planning (or not planning) for new wells includes:

- The location and capacity of all PWSS wells or well fields;
- How does current capacity compare to the current use?
- Is community development and expansion expected?
- Do commercial or industrial facilities located in the community require more water?
- Can enhancement of the system capacity attract new business or industry.
- Will the public water supply system have to be expanded to meet future demands?
- What, if any, contamination sources have been identified in the wellhead protection area?
- Can the contamination sources in the wellhead protection area be considered "potential" sources requiring management efforts to control them?
- Are there "existing" sources of contamination in the wellhead protection area that may impact public water supply system wells in the future?
- Based upon the wellhead protection area delineation, can areas be identified which appear isolated from present contamination problems?

Answering the above or similar questions should allow you to draw conclusions about the need for further ground water resource development and the construction of new wells. If new wells are anticipated a brief description of how the new wells will be incorporated into the local wellhead protection program should be provided.